



Memorandum

U.S. Department of Transportation

**Federal Aviation
Administration**

Subject: **INFORMATION:** Policy Statement on the Certification
of an In-seat Video System (IVS)

Date: August 12, 2005

From: Manager, Transport Airplane Directorate,
Aircraft Certification Service, ANM-100

Reply to
Attn. of: ANM-113-04-032

To: See Distribution

Regulatory §§ 25.601, 25.785(k),
Reference: 25.789, and 25.813

Summary

The purpose of this memorandum is to provide Federal Aviation Administration (FAA) certification policy for an In-seat Video System (IVS). This policy provides a means to reduce the regulatory burden for IVS certification by recognizing the nonhazardous and reliable nature of the existing systems. This includes IVSs that are mounted on seats or are on other related components delivered to the seat installer by the seat supplier as part of the seat "system." They are not, however, manufactured or designed by the seat Technical Standard Order (TSO) holder.

Based on the data industry presented to the FAA, IVS designs have matured and no longer require abuse load testing under 14 CFR § 25.601. This policy also recommends analysis as a method of compliance for retention, stowage, and breakaway, and should clarify questions that have arisen about previously released policy on this subject.

Although the regulations may not specifically refer to IVS, we identify the requirements that apply in italics. In addition to means of compliance, the FAA has included recommendations which may be considered when designing these systems and used as an acceptable means of compliance where applicable.

Current Regulatory and Advisory Material

The applicable regulations are 14 CFR §§ 25.601, 25.785(k), 25.789 and 25.813. Current policy statements 01-115-32, 01-115-38, and 02-115-21 address the abuse load, stowage, retention, and breakaway criteria used to substantiate these systems.

We cover approval standards for seats in TSO's C-39 and C-127. A seat manufacturer who holds a TSO-C39 or TSO-C127 approval may integrate the IVS into the seat (as a supplier to the seat installer). The TSO does not cover the approval of the IVS and so it must not be included in the TSO data package or in the approval letter.

Policy

This policy documents means for satisfying abuse load and retention, stowage and breakaway criteria. It also describes past practices accepted by the FAA for IVS. To reduce the impact to industry and streamline the approval process, the FAA suggests use of this policy to demonstrate (applicant) and find (FAA or designee) compliance. The applicant is the seat installer. This document refers to previously issued policy as needed and therefore, is or can be used a single reference for IVS certification.

Abuse Load

Based on satisfactory service history for IVSs, the FAA has determined that suitability of the design details demonstrated by experience should no longer be “questionable” in the *context of § 25.601*. In-seat video systems do not need to be assessed by tests.

However, if experience shows an IVS to be hazardous or the design (basic characteristics) incorporates features which are questionable, the FAA recommends the use of testing contained in Aerospace Recommended Practice (ARP) 5475, as a means of compliance with § 25.601. We cover this approach in previous policy memorandums as discussed in relevant past practice.

Retention, Stowage, and Breakaway

When an IVS is placarded to be stowed for taxi, takeoff, and landing, an operational verification should be made by the applicant that the unit performs its intended function and can be stored without undue force. The *emergency egress requirements (§ 25.813)* are met by complying with the *retention requirements of § 25.789* (see below). Also, *compliance with § 25.785(k)* could be demonstrated by utilization of systems that are padded or have been shown to be nonhazardous, and which are evaluated to have no sharp edges or other features that would otherwise be injurious to each seated occupant.

Current policy memorandum 02-115-21 provides a means of compliance with §§ 25.789, 25.785(k), and 25.813. Although the criteria therein are valid, an analysis, or inspection of the production article performed by the applicant would also be an acceptable method of compliance to demonstrate that IVS will be retained or break away as required.

Showing compliance with the above conditions is principally the responsibility of the applicant, but a seat supplier holding a TSO Authorization may perform the review or assessment. We base this on the experience with these systems, the review required, and existing delegation. Unless the local authority (i.e., Foreign Civil Airworthiness Authority (FCAA) or local Aircraft Certification Office (ACO)) finds that this review is outside the capability of a particular seat manufacturer, a letter from the supplier or local authority is developed. This letter includes other findings outside of the TSO, verifying the above should be accepted as noted in previous policy memorandums. The delegation of items outside the TSO is typically addressed by a Partnership for Safety Plan.

Relevant Past Practice

As noted in policy memorandum 01-115-32, when IVS were first installed on seats, the FAA expected the applicant to show that these systems did not introduce injurious features, reduce occupant safety, or reduce the occupant's ability to egress during an emergency. There were various designs and the potential for injury needed to be addressed.

When these systems were new, the nature and behavior because of an abuse load in flight was unknown. We conduct tests under § 25.601, which requires substantiation of questionable design details by test. Industry developed the abuse load criteria which standardized the designs of these systems and then developed ARP 5475, Abuse Load Testing for In-Seat Deployable Video Systems, to document best practices for meeting the IVS requirements. With the issuance of policy memorandum 01-115-32, the FAA recognized ARP 5475 as the industry standard for IVS testing. Accepting this standard is independent of the location of where the IVS was installed. The memorandum found a valid method of compliance when such a statement from the seat supplier to the installer stated that the criteria of ARP 5475 had been met. We issued memorandum 01-115-38 to specify that a statement from the seat supplier alone would be enough that we would require no further review.

This policy was reasonable because seat suppliers held TSO Authorization, regularly performed similar tests, and used other industry standards. It was not the intent to allow suppliers without FAA delegation to perform these tests. Similar testing outside of the ARP was included in policy memorandum 02-115-21 and was also considered to be within the capabilities of the seat supplier. This approach relieved the seat supplier from preparing test plans/reports for submittal to the installer for review by the FAA or its designee providing oversight for the applicant.

We did not consider these tests to be certification tests but tests conducted by the seat supplier as a way to assess the design capability of the IVS components installed on the seats. However, we did not address the method for including this assessment, by policy. It is the applicant's responsibility to establish agreements or ensure by other means the capability of their supplier to perform such work which is outside the scope of the TSO.

Effect of Policy

The general policy stated in this document does not constitute a new regulation or create what the courts refer to as a "binding norm." The FAA individual or designee that implements policy should follow this policy when applicable to the specific project. Whenever a proposed method of compliance is outside this established policy, it must be coordinated with the policy issuing office.

The project officer and technical specialists, in coordination, will determine if an issue paper is needed or if an item of record is more appropriate for the purposes of providing

consistency. Similarly, if the implementing office becomes aware of reasons that an applicant's proposal should not be approved, the office must coordinate its response with the policy issuing office.

Applicants should expect that the certificating officials will consider this information when making findings of compliance relevant to new certificate actions. Also, as with all advisory material, this statement of policy identifies one means, but not the only means, of compliance.

Implementation

The compliance methods discussed in this policy should be applied to type, amended, supplemental, and amended supplemental type certification programs whose application date is on or after the date the policy is finalized. For existing certification programs whose application precedes the date this policy is effective and the methods of compliance have already been coordinated with and approved by the FAA or their designee, the applicant may continue to follow the previously acceptable methods of compliance or choose to follow the guidance contained in this policy.

Conclusion

The FAA has concluded that it is unnecessary to continue to require abuse load testing on systems for which extensive data demonstrate the non-hazardous nature of IVS. If other data were to be presented which demonstrated otherwise, the intent and content of this policy would be reconsidered.

/s/

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